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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/634,901	08/09/2000	Randy J. Templeton	FDC 0158 PUS	5328

7590 02/14/2002

Jeremy J Curcuri
Brooks & Kushman PC
1000 Town Center 22nd Fl
Southfield, MI 48075-1351

EXAMINER
CAPUTO, LISA M

ART UNIT	PAPER NUMBER
2876	

DATE MAILED: 02/14/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/634,901	TEMPLETON ET AL.	
	Examiner	Art Unit	
	Lisa M Caputo	2876	

-- The MAILING DATE of this communication appears on th cover sh et with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 August 2000* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No._____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Drawings

1. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

2. The drawings are objected to because Figures 1-3 are pictures that are too dark to distinguish the claimed features. Examiner is able to assume the components of the machine due to ordinary skill in the art, however, drawings should be lighter so as to leave no question as to placement of components. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-4, 6-7, 9, 11-12, 21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Templeton et al. (U.S. Patent No. 5,679,940, from hereinafter "Templeton") in view of Funk (U.S. Patent No. 5,832,463).

Templeton discloses a transaction system with multiple data reading capabilities. Templeton discloses the preferred check acceptance system 10, in which a merchant employs an interactive electronic transaction terminal 15 that communicates with a check acceptance service 20 via a communication system 25. Generally described, the merchant is responsible for entering the required transaction data into the transaction terminal 15. The transaction terminal 15 then attempts to connect to the check acceptance service 20 via the communication system 25. If the connection is established, the transaction terminal 15 transmits a transaction packet 30 to an authorization host computer 35, which is operated by the check acceptance service 20. The authorization host computer 35 processes the data in the transaction packet in the manner described below and returns a response packet 40 to the transaction terminal 15. The response packet 40 includes authorization indicia and other information. The authorization indicia, which indicates whether the check should be accepted or declined, or that additional information is needed, is displayed by the transaction terminal 15.

The preferred transaction terminal 15 includes a MICR reader, magnetic stripe reader, display 45, keypad 50, and a modem (not shown). The MICR reader includes a

MICR read head (not shown) positioned adjacent a MICR slot 55, and is operative for electronically reading the MICR characters 60 on a check 65. The magnetic stripe reader includes a magnetic read head (not shown) positioned adjacent a card swipe slot 70, and is operative for electronically reading a magnetic stripe 75 on the back of a identification card 80 or data card (not shown). In a typical check transaction, the merchant inserts the check 65 into the MICR slot 55 and it is read by the MICR reader. The merchant then uses the terminal's keypad 50 to enter the amount of the check into the transaction terminal. If the terminal indicates that additional data is required, the merchant swipes the customer's identification card through the card swipe slot 70, or enters the appropriate identification data using the keypad 50. After all of the required data is entered into the transaction terminal, the terminal uses its internal modem to call the check acceptance service 20 and transmit the transaction packet 30 to the authorization host computer 35 (see Figure 1, col 11 line 55 to col 12 line27).

Further, Templeton discloses that FIG. 4 is a block diagram of the electronic control circuitry 130 employed in the preferred check transaction terminal 15. The preferred circuitry 130 is constructed around a type 80C31 8-bit microcontroller 135 manufactured by Intel Corporation, Santa Clara, California. Details of the preferred microcontroller are available in the literature supplied by the manufacturer. The circuit 130 includes random access memory ("RAM") 140 and read only memory ("ROM") 145, which provide volatile and non-volatile storage for the microcontroller 135. The preferred RAM includes 256K bytes of battery backed RAM for storage of transaction data and any downloadable application program(s). The preferred ROM is a 16K byte ROM for

storing the terminal's firmware. The firmware is operative for providing low-level hardware specific features. In addition, the firmware includes a bootstrap load utility capable of downloading the application program via modem or serial port. The microcontroller 135 is connected to an external serial port controller 150. The preferred serial port controller is a type 82C452 serial communications controller, manufactured by Startech Semiconductor, San Jose, Calif., which includes two individually programmable serial ports 115 that may used to communicate with a variety external serial devices. Typical serial devices found in point of sale systems include receipt printers, signature capture pads, PIN pads, or other peripheral devices. In addition to the serial ports 115, the transaction terminal 15 includes a 1200 baud modem 155, which is connected to two RJ-11 telephone jacks 120. The preferred modem 155 is a type 73K212 modem, manufactured by Silicon Systems, and is operative for sending and receiving data between the transaction terminal 15 and remote data communications devices connected via a standard telephone line. The remote data communications devices may be operative for receiving transaction data associated with check transactions being conducted at the transaction terminal, and providing authorization indicia associated with those transactions. In addition, these remote devices may provide the transaction terminal's application program, which may be downloaded from time to time as described below (see Figure 4, col 16 line 61 to col 17 line 34). After the magnetic stripe data is decoded by the microcontroller, the data is used by the transaction terminal in the manner described below. The MICR reader 165 is connected to the microcontroller 135 and includes analog and digital circuitry required

to control the MICR reader and decode the data read from the check. In addition to data signals from the MICR read head, the microcontroller 135 also receives signals from sensors that are associated with the preferred MICR reader and indicate the presence and approximate position of a check that is to be read. In response to these signals, the microcontroller sends signals that control the MICR motor and cause the check to be carried past the MICR read head. Signals from the magnetic ink characters on a check are picked up by a MICR read head. These signals, which are indicative of the account data imprinted on the check, are provided to the microcontroller 135, where the data is decoded and used (see Figure 4, col 18, lines 3-19).

Regarding claims 1 and 12, Templeton fails to teach an imaging device for capturing an image of the check.

Funk teaches an automated system and method for checkless check transaction. Funk discloses in FIGS. 2 and 4 a block diagram and a flowchart of automated checkless check transaction system and method therefore, respectively, and both are referenced in the description below. The instant system and method are applicable to bank teller transactions, point-of-sale transactions, as well as any other transactions in which a check is provided as payment or for deposit. Beginning at block 400 of FIG. 4, an automated checkless check transaction according to the present invention begins by obtaining a check amount as written on the check, as shown in block 402. Check amount entry may be performed by the bank teller or cashier on a numerical keypad 202 (FIG. 2) or any other suitable data entry device. The check is also passed through a MICR reader 200 to read the checking account information pre-printed on the check, as

shown in block 404. FIG. 3 shows a representation of a check 300, with the MICR line located on the bottom of the check. Numerals 304 are transit and routing information, numerals 306 are the checking account number, and numerals 308 are the check serial number. The check amount 302 is written in two fields on the face of the check. In bank teller transaction applications, the depositor's account number, as shown on the deposit slip, may also be read by MICR reader 200. Alternatively, the depositor's account number may be entered manually. A device 204 is further used to capture an image of the face of the check, including the account owner's signature, as shown in block 406. Device 204 may be a digital camera that captures the image of the check and transform it into digital bits of data. The checking account information, check amount, and the check image are then transmitted electronically to a checkless transaction system 206. The depositor's account information is also transferred, if applicable. All the relevant transaction data may be stored in a database 207 coupled to checkless transaction system 206 for ready accessibility. At the time of presentment, all the relevant information associated with the check is in electronic or digital form, therefore the need for maintaining and handling the paper check becomes obsolete. The paper check may be truncated or marked in some way to indicate that it has been processed and returned to the customer. The customer may then do as he/she pleases with the check. He/she may keep it for a number of years or discard it.

The connection between MICR reader 200, check amount entry device 202, and image capturing device 204 to checkless transaction system 206 and database 207 may be via a dedicated or switched telecommunications line. Although shown as

separate entities, MICR reader 200, check amount entry device 202, and image capturing device 204 may be implemented as an integrated input device. Checkless transaction system 206 is in electronic communications with the banking institution or a servicer contracted to perform the checkless transaction function 208. A computer terminal 209 may be coupled to database 207 directly or indirectly through checkless transaction system 206. Checkless transaction system 206 and database 207 may be located on-site at bank/servicer 208 or may be located remotely therefrom. Indeed, the location of each piece of hardware or the execution site of any software need not be limited to any locale, as its location is inconsequential to the operations of the system and performance of the process. Checkless transaction system 206, having received all relevant transaction data, performs an electronic settlement and electronic post, after which the process ends, as shown in blocks 408, 412, and 414 (see Figures 2 and 4, col 3 line 28 to col 4 line 23).

In view of the teaching of Funk, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ an image scanner with the system as disclosed by Templeton. When operating point-of-sale terminals, it is favorable to obtain the most accurate and substantial information that is possible for both customer and merchant benefit. Using the MICR method is an accurate way to ensure that a check is valid. However, by taking an image of the check, the merchant has more viable evidence if there should be a problem in the future, such as insufficient funds. It would be obvious to place this imager in the point-of-sale terminal so that it would be readily available for use and protection.

Regarding claims 2 and 3, Templeton teaches that the microcontroller 135 (processor) is also connected to a keypad 50 and display 45 (see Figures 1 and 4, col 18, lines 28-30).

Regarding claim 4, Templeton teaches that the preferred transaction terminal 15 includes a MICR reader, magnetic stripe reader, display 45, keypad 50, and a modem (not shown). The MICR reader includes a MICR read head (not shown) positioned adjacent a MICR slot 55, and is operative for electronically reading the MICR characters 60 on a check 65. The magnetic stripe reader includes a magnetic read head (not shown) positioned adjacent a card swipe slot 70, and is operative for electronically reading a magnetic stripe 75 on the back of a identification card 80 or data card (not shown) (see Figure 1, col 12, lines 7-16).

Regarding claim 6, Templeton teaches that after all of the required data is entered into the transaction terminal, the terminal uses its internal modem to call the check acceptance service 20 and transmit the transaction packet 30 to the authorization host computer 35 (see Figure 1, col 12, lines 23-27). Further, in addition to the serial ports 115, the transaction terminal 15 includes a 1200 baud modem 155, which is connected to two RJ-11 telephone jacks 120. The preferred modem 155 is a type 73K212 modem, manufactured by Silicon Systems, and is operative for sending and receiving data between the transaction terminal 15 and remote data communications devices connected via a standard telephone line (see Figure 4, col 17, lines 21-27).

Regarding claim 7, Templeton teaches that the microcontroller 135 is connected to an external serial port controller 150. The preferred serial port controller is a type 82C452 serial communications controller, manufactured by Startech Semiconductor, San Jose, Calif., which includes two individually programmable serial ports 115 that may used to communicate with a variety external serial devices (see Figure 4, col 17, lines 11-18).

Regarding claim 9, Templeton teaches that the check acceptance service 20 includes the authorization host computer 35, and associated telecommunications equipment (not shown) that allows merchant's terminals to communicate with the authorization host computer. Those skilled in the art will understand that the associated telecommunications equipment includes call routing systems, front end processors, and other equipment needed to answer incoming calls, and route and format data included in incoming transaction packets. Generally described, the primary function of the check acceptance service's authorization host computer 35 is to effectively differentiate between good and bad checks. To accomplish this, the preferred check acceptance service develops and maintains a variety of resources, including a negative data base 85, positive data base 87, and a sophisticated scoring algorithm or predictive modeling system 90. These resources are on-line, and are continuously updated to accept real-time check activity. The authorization host computer also has access to a validation file 95, which includes resources that may be used to validate information received from the check writer. Merchant related parameters are provided in a merchant file 100, and

billing files and transaction logs are maintained in an administrative file 102 (see Figure 1, col 12, lines 43-65).

Regarding claim 11, Templeton further teaches a flow diagram illustrating the preferred method 300 of operating the transaction terminal 15 in the check acceptance system of FIG. 1. Those skilled in the art will understand that the preferred method 300 is implemented as program code for the transaction terminal's microcontroller.

Generally described, the method 300 controls the acquisition of transaction data at the point of sale and the transmission of data between the transaction terminal 15 and the authorization host computer 35. The method 300 requires that the merchant enter transaction data into the transaction terminal. The terminal then analyzes this data using a terminal-based scoring algorithm. Based on the outcome of the terminal scoring algorithm, the transaction terminal will either approve the transaction "off-line" without transmitting data to the authorization host computer, transmit the data to the authorization host computer for authorization, or request additional information from the merchant prior to transmitting the data to the authorization host computer. In the preferred method 300, the transaction terminal will not decline the transaction based on the outcome of the terminal scoring algorithm. After the authorization process is complete, the transaction terminal will display an appropriate authorization indicia to indicate to the merchant whether the check should be accepted or declined.

The preferred method begins at step 305 by prompting the merchant to enter transaction data into the terminal. At this step, the merchant would enter the check's

MICR numbers by inserting the check in the MICR reader, or by manually entering the characters via the keypad. If the MICR numbers are entered manually, the merchant will also indicate the check sequence number and whether the check is a personal check or a company check. The merchant will also enter be prompted to enter the amount of the check and indicate the amount of cash, if any, that will be given to the customer. At this step, the transaction terminal may also prompt the merchant to swipe the customer's drivers license through the card swipe slot. The process by which transaction data is entered is described more completely below in conjunction with FIG. 7. The transaction data is stored in the terminal so that it is available for subsequent transaction packets as described below in relation to interactive processing. At step 310, the terminal applies a terminal-based risk scoring algorithm to the available transaction data to determine whether the transaction should be processed locally or remotely, and whether additional information is required. The terminal scoring algorithm, which is based on the principles of the authorization host computer's credit scoring algorithm, analyzes the available data to determine the probability that the check will be good. Those skilled in the art will understand that the terminal scoring algorithm may analyze any of the statistically significant data available at the terminal. Such data may include, but is not limited to, the check sequence number, the amount of the purchase, the amount of cash back, the time of day, whether the check is a personal or company check, and the strength of the MICR read. Those skilled in the art will understand that the terminal based algorithm may be as simple as determining whether the purchase amount is greater than or less than predetermined amounts, or floor limits. Alternatively, the algorithm may be

sophisticated enough to consider a plurality of the available data. As mentioned earlier, the particular data and the weights assigned to various data are considered proprietary by their owners, and are not generally known. However, the relevant principles will be familiar to those skilled in the art. Depending on the outcome of the terminal scoring algorithm, the method 300 chooses one of three branches. If the terminal scoring algorithm determines that the risk associated with the check falls in an average or middle range, the terminal will transmit the transaction data to the authorization host computer and await a response. If the terminal scoring algorithm determines that the risk associated with the check is sufficiently low, the terminal will approve the transaction and provide an approval code without initiating on-line communications with the authorization host computer. In the case of an off-line approval, the transaction data will be stored in the terminal until the terminal communicates with the authorization host computer for the purpose of approving a subsequent check transaction. If the terminal scoring algorithm determines that the risk associated with the check is sufficiently high, the terminal will require the merchant to enter additional information into the terminal prior to transmitting the transaction data to the authorization host computer. Although some transactions may be approved off-line by the terminal, the preferred method 300 does not permit the transaction terminal to decline a transaction based on the outcome of the terminal scoring algorithm (see Figure 6, col 20 line 44 to col 21 line 64).

5. Claims 5 and 22 rejected under 35 U.S.C. 103(a) as being unpatentable over Templeton in view of Funk and further in view of Higashiyama et al. (U.S. Patent No. 5,175,682). The teachings of Templeton and Funk have been discussed above.

Regarding claim 5, Templeton in view of Funk fails to disclose a printing device to print a receipt and to also print on a check.

Higashiyama teaches a check processing system. Higashiyama discloses that FIG. 2 depicts one embodiment of a system for use by a merchant in accordance with the teachings of this invention. Merchant system 200 includes one or more point of sale systems 210 including, for example, point of sale terminal 201 such as a typical electronic cash register, or the like. Magnetic Ink Character Recognition (MICR) reader 202 is used for reading the magnetic account number printed on checks, which data is fed to POS terminal 201. Alternatively, the information pertaining to the check's account number, etc. can be entered in any convenient manner, for example via the keypad on the POS terminal 201, or via a customer identification card issued by the merchant (see Figure 2, col 3, lines 11-23).

Once authorization is provided (if the authorization step is performed), next the check is placed in printer 203 and validation information is printed on the check, if desired. Such validation information serves as an indication that electronic data pertaining to this check has been routed for collection, and that the check may thus be considered "cancelled." Such validation information includes, for example, information similar to a rubber endorsement stamp typically used by merchants who process checks in accordance with prior art techniques. Such information typically includes the merchant's name and the merchant's DDA number. The validation information prints in accordance with the teachings of this invention can also quite easily include the date and time of the transaction and language indicating that the check has been cancelled

and is being cleared through to the customer's checking account electronically. Alternatively, other means can be used to provide validation information on the check, for example, a rubber stamp used for this purpose. While this is less desirable than using a printer, in certain circumstances it may obviate the need for additional printer, and a simple rubber stamp, or the like, can serve as a convenient backup in the event of printer failure. However, in a preferred embodiment, printer 203 is used for purposes in addition to providing validation information on a customer's check, for example, to assist in preparing credit card slips and the like.

The validated check is then returned to the customer for safekeeping, thus avoiding the need for the check to be physically transported through the system depicted in FIG. 1 for ultimate return to the customer. Alternatively, the check is retained by the merchant. This has the advantage of allowing the merchant to retain possession of the check in the event that there is a problem with its collection. In either event, whether the check is returned to the customer or retained by the merchant, a receipt is, if desired, printed and given to the customer indicating that payment has been made by check, and the check is being electronically cleared. This receipt can be either a part of or separate from another receipt indicating detailed information regarding the transaction just completed (see Figure 2, col 4, lines 25-68).

In view of the teaching of Higashiyama, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add a printer to the system of Templeton/Funk because it is favorable to have physical markings to represent the transaction processed on the check for future reference. Furthermore, it is favorable for

the customer to have an actual, physical receipt of their transaction so that they can keep it in their records. It is obvious to place it within the point-of-sale terminal because of the convenience of having it readily available and the proximity of the check that is to be franked.

Regarding claim 22, Templeton in view of Funk fails to teach printing a money order and sending the image.

In view of the teaching of Higashiyama, it would have been obvious to one of ordinary skill in the art at the time the invention was made to program the printer to be able to print a money order because in essence, this is just another type of receipt and can be used by the customer as proof of their transaction.

6. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Templeton in view of Funk and further in view of Hills et al. (U.S. Patent No. 6,164,528, from hereinafter "Hills"). The teachings of Templeton/Funk have been discussed above.

Templeton/Funk fails to disclose that there is a smart card reader affixed to the housing of the terminal.

Hills teaches a check writing point-of-sale system. Referring to FIG. 2 the point-of-sale equipment is described. The point-of-sale terminal comprises several different entry means. A key board 310 can be used to input consumer information manually, including both bank routing and consumer account information. The key board 310 allows the system subscriber to input information such as (i) electronic checking requests, (ii) a void procedure for incorrect, returned, or canceled events, (iii) a preauthorization inquiry for the status of consumer accounts, and (iv) accessing system

subscriber's daily activity reports. Alternatively a card reader 312 can be used whereby the magnetic strip on the card is read by the point-of-sale terminal to obtain account information and finally a check reader 314 may alternately be included to read the MICR encoded bank and account numbers which appear on a consumer's specimen check as a substitute for either a specific card or key board input. These various input means provide information to a microprocessor 316 which comprises logic means 318, memory means 320, and communication means 322. The logic means 318 comprises logic which allows the information received from the various input means to be processed and stored in the memory 320. The logic means further drives a display 324 which provides a visual output of the bank and account numbers of the consumer for verification. The communication means 322 allows the subscriber terminal to communicate with the central computer 302 for purposes of processing the consumer's purchase. The communications means 322 is compatible with ECR and PC systems (see Figure 2, col 10 line 44 to col 11 line 5). Information relating to the consumer-cardholder and the appropriate banking account to be debited for a Transaction Event will be encoded upon the Magnetic stripe portion of the plastic, and terminal-readable card. The present invention is also compatible with SMART card technology (see col 5, lines 2-7).

In view of the teaching of Hill, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a SMART card reader to the housing. SMART card technology is technologically further advanced than magnetic stripe cards in that it can hold more account information for a customer. It is favorable

to have this SMART card reader on the terminal because if a problem arises, it can be more readily solved by accessing the account information on the SMART card, which would cut down on lengthy transactions and confusion regarding a customer's account status.

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Templeton in view of Funk and further in view of Harr (U.S. Patent No. 3,599,151). The teachings of Templeton/Funk have been discussed above.

Templeton/Funk fails to teach that dynamic thresholding is used discriminate text from the background as it relates to checks at point of sale.

Harr teaches a character recognition photosensing apparatus with a threshold comparator circuit where the recognition of human and machine readable characters of a family of type of which each character has one or more narrow line segments on a contrasting background and is enhanced by a positive and negative peaked level photosensing arrangement. Harr discloses that in contemporary alphanumeric character art, attention is being directed to simplified, low cost printing apparatus and the corresponding character recognition apparatus, both compatible with hand lettering and sight recognition for se in conjunction with data processing systems such as commercial billing systems, information retrieval systems, Computer Assisted Instruction (CAI) systems, and the like (see col 1, lines 15-21).

According to the invention, the objects indirectly referred to hereinbefore and those which will appear hereinafter are attained in optoelectronic mark sensing apparatus of simplified construction. While the electronic apparatus according to the

invention is adaptable to any mark sensing application of contrasted writing or printing, the invention evolved from short line segment recognition constrained characters based on the format of a medianly quartered parallelogram (MQP) which embraces both slanted and upright printing the latter being a special case in the form of an orthogonally quartered rectangle (OQR) of the 26 letters of the English alphabet and the ten Arabic numerals. Only a few letters vary greatly from the conventional and these are readily recognized upon seeing them in proper context. According to the invention character recognition photosensing apparatus comprises an arrangement wherein light from a suitable conventional source is arranged to impinge on a document in the area to be scanned and is reflected quantitatively from the background and from the presence or absence of a mark at the point of scan. A conventional photoresponsive device is arranged to intercept the reflected light for application to a suitable conventional amplifying circuit at the output of which is a voltage of two significant levels denoting mark or space, that is the absence of a mark. Light from the same or another suitable source is directed to timing apertures on at least one disk and to another suitable photoresponsive device beyond which transmits timing pulses to a conventional amplifying circuit for generating conventional control voltages for the subsequent circuits. Other conventional timing pulse generating means can be used if desired, however, as the generating of timing pulse waves forms no part of the invention in and of itself (see col 1, line 54 to col 2 line 11).

In view of the teaching of Harr, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ dymanic thresholding to

discriminate text from the background of the checks. It would be favorable to employ this method along with the imaging so that the check can be validated without a doubt (i.e. with the additional dynamic thresholding, the text can be read more clearly and authenticated and it can be made sure that there are no forgeries).

8. Claims 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Templeton in view of Funk and further in view of Hills and Higashiyama. The teachings of Templeton/Funk/Hills/Higashiyama have been discussed above.

Regarding claims 13, 14, and 19 Templeton/Funk fails to disclose three slots for each of the different media and a printer along with the other features recited in the claims above.

In view of the above teachings of Templeton/Funk/Hills/Higashiyama, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have three different slots (instead of just the two, one for the check and one for the magnetic stripe card), one for each of the magnetic stripe card, check, and SMART card so that each slot can be tailored for the specific details of each of the different media. Subsequently, each media has their own place and will not make the other slots malfunction. Further, it would have been obvious to one of ordinary skill in the art at the time the invention was made to place all of the components together (i.e. the different slots, printing capabilities, imaging capabilities, etc.) to form a complete and useful point-of-sale system that can be readily utilized with it's many features that work together in an integrated system.

Regarding claims 15-17, Funk teaches that the paper check may be truncated or marked in some way to indicate that it has been processed and returned to the customer. The customer may then do as he/she pleases with the check. He/she may keep it for a number of years or discard it (see col 3 line 65 to col 4 line 2). Further, Higashiyama teaches a check processing system. Higashiyama discloses that FIG. 2 depicts one embodiment of a system for use by a merchant in accordance with the teachings of this invention. Merchant system 200 includes one or more point of sale systems 210 including, for example, point of sale terminal 201 such as a typical electronic cash register, or the like. Magnetic Ink Character Recognition (MICR) reader 202 is used for reading the magnetic account number printed on checks, which data is fed to POS terminal 201. Alternatively, the information pertaining to the check's account number, etc. can be entered in any convenient manner, for example via the keypad on the POS terminal 201, or via a customer identification card issued by the merchant (see Figure 2, col 3, lines 11-23).

Once authorization is provided (if the authorization step is performed), next the check is placed in printer 203 and validation information is printed on the check, if desired. Such validation information serves as an indication that electronic data pertaining to this check has been routed for collection, and that the check may thus be considered "cancelled." Such validation information includes, for example, information similar to a rubber endorsement stamp typically used by merchants who process checks in accordance with prior art techniques. Such information typically includes the merchant's name and the merchant's DDA number. The validation information prints in

accordance with the teachings of this invention can also quite easily include the date and time of the transaction and language indicating that the check has been cancelled and is being cleared through to the customer's checking account electronically. Alternatively, other means can be used to provide validation information on the check, for example, a rubber stamp used for this purpose. While this is less desirable than using a printer, in certain circumstances it may obviate the need for additional printer, and a simple rubber stamp, or the like, can serve as a convenient backup in the event of printer failure. However, in a preferred embodiment, printer 203 is used for purposes in addition to providing validation information on a customer's check, for example, to assist in preparing credit card slips and the like.

The validated check is then returned to the customer for safekeeping, thus avoiding the need for the check to be physically transported through the system depicted in FIG. 1 for ultimate return to the customer. Alternatively, the check is retained by the merchant. This has the advantage of allowing the merchant to retain possession of the check in the event that there is a problem with its collection. In either event, whether the check is returned to the customer or retained by the merchant, a receipt is, if desired, printed and given to the customer indicating that payment has been made by check, and the check is being electronically cleared. This receipt can be either a part of or separate from another receipt indicating detailed information regarding the transaction just completed (see Figure 2, col 4, lines 25-68).

Regarding claim 18, Templeton discloses that FIG. 4 is a block diagram of the electronic control circuitry 130 employed in the preferred check transaction terminal 15.

The preferred circuitry 130 is constructed around a type 80C31 8-bit microcontroller 135 manufactured by Intel Corporation, Santa Clara, California. Details of the preferred microcontroller are available in the literature supplied by the manufacturer. The circuit 130 includes random access memory ("RAM") 140 and read only memory ("ROM") 145, which provide volatile and non-volatile storage for the microcontroller 135. The preferred RAM includes 256K bytes of battery backed RAM for storage of transaction data and any downloadable application program(s). The preferred ROM is a 16K byte ROM for storing the terminal's firmware. The firmware is operative for providing low-level hardware specific features. In addition, the firmware includes a bootstrap load utility capable of downloading the application program via modem or serial port. The microcontroller 135 is connected to an external serial port controller 150. The preferred serial port controller is a type 82C452 serial communications controller, manufactured by Startech Semiconductor, San Jose, Calif., which includes two individually programmable serial ports 115 that may used to communicate with a variety external serial devices. Typical serial devices found in point of sale systems include receipt printers, signature capture pads, PIN pads, or other peripheral devices (see Figure 4, col 16 line 61 to col 17 line 21).

Regarding claim 20, Templeton discloses that in addition to the serial ports 115, the transaction terminal 15 includes a 1200 baud modem 155, which is connected to two RJ-11 telephone jacks 120. The preferred modem 155 is a type 73K212 modem, manufactured by Silicon Systems, and is operative for sending and receiving data

between the transaction terminal 15 and remote data communications devices connected via a standard telephone line (see Figure 4, col 17, lines 21-27).

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ***Lisa M. Caputo*** whose telephone number is **(703) 308-8505**. The examiner can normally be reached between the hours of 8:30AM to 5:00PM Monday thru Friday.

The fax phone number for this Group is (703)308-7722, (703)308-7724, or (703)308-7382.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [**lisa.caputo@uspto.gov**].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

LMC
February 11, 2002

KARL D. FRECH
PRIMARY EXAMINER